

# APPENDIX H. Overview of U.S. Army Corps of Engineers' Steigerwald Lake, Section 1135, Feasability Study Project

This appendix contains key portions of a draft Project Management Plan (PMP) prepared by the U.S. Army Corps of Engineers, Portland District Office, for their proposed Section 1135 feasibility study at Steigerwald Lake National Wildlife Refuge. The Corps of Engineers (COE) developed the draft PMP in cooperation with the nonfederal "project sponsor", Washington Department of Fish and Wildlife, and with review by the U.S. Fish and Wildlife Service. Several meetings to discuss project scope and coordination have occurred; however, the project was not initiated due to COE nationwide funding shortfalls in fiscal year 2004 (see letter from COE to WDFW at end of this appendix).

## **Project Background and History**

The Steigerwald Lake area is located approximately 1 mile east of Washougal, Washington. The area was historically a floodplain of the Columbia River with a history of inundation to varying levels on a nearly annual basis. Riparian forest, natural wetlands associated with Steigerwald Lake, grasslands and Gibbons Creek were the principal habitat component. Steigerwald Lake is approximately 1000 acres in size, the majority of which is managed by the US Fish and Wildlife Service (USFWS) as the Steigerwald Lake National Wildlife Refuge.

The U.S. Army Corps of Engineers (COE) constructed a main flood control levee protecting Washougal-Steigerwald Lake in 1965-66. The Steigerwald Lake area was effectively severed from flooding actions of the Columbia River upon completion of the levee system and a barrier to movement of anadromous fish to the Gibbons Creek watershed was established. Out-migrating juvenile salmonids from both Gibbons Creek and Lawton Creek (immediately upstream of levee) were thus precluded from utilization of the Steigerwald Lake wetlands. Pasturelands are the dominant habitat feature of the very upstream most area protected by the Washougal levee. These pastures are comprised of introduced pasture grasses. Pastures, depending upon their location, are grazed, hayed or mowed in order to provide short green grass upon arrival of fall flights of Canada geese beginning in late September.

The project site, as it exists today, was established in 1988 for the purpose of mitigating impacts to fish and wildlife resulting from construction of the Bonneville Second Powerhouse. Additional lands added to the Refuge after its establishment provides mitigation for hydroelectric development on the Columbia River and its tributaries.

## **Project Purpose**

This project is a study to assess environmental restoration potential with a focus on improving fisheries access/egress and habitat while balancing the habitat needs for terrestrial biota.

Restoration of juvenile salmonid rearing habitat will support recovery of Federally listed, or candidate to be listed, anadromous fish. Wetland and riparian forest habitat restoration will also benefit listed fish species, plus a diverse array of other fish and wildlife species.

## **Project Authorization**

This project is being executed under the authority provided through the Water Resources Development Act of 1986, Section 1135, Environmental Restoration. The project sponsor is the State of Washington Department of Fish and Wildlife (WDFW). The provisions provided under this act authorizes the COE to modify structures and operations of COE projects to improve the quality of the environment when it is determined that such modifications are feasible and consistent with the authorized project purposes.

## **Project Scope**

This study will assess the viability of future actions by the COE by first determining whether or not a Federal interest exists under the guidelines stipulated under Section 1135 of WRDA 1986. If this study proceeds, the product is a feasibility report, complete with all of the required National Environmental Policy Act requirements (NEPA). In the event that the feasibility report is completed, plans and specifications will be generated with the intent of going to construction at the earliest possible date. The proposed study will look at the feasibility and impacts associated with the following:

Restoration of Steigerwald Lake: Through the construction of controlled inlet/outlet structures, allow controlled ingress of Columbia River flows to a predetermined level, currently estimated to be between 18-20' NGVD, and to allow for control of water levels in Steigerwald Lake. All the while, maintaining existing levels of flood protection for non-refuge lands, both upstream and downstream of Steigerwald lake (the James' property and Port of Camas/Washougal, respectively).

Reconnecting Gibbons Creek to Steigerwald Lake: Additional water inflow will be introduced into Steigerwald Lake through the rerouting of Gibbons Creek. The Gibbons Creek elevated channel, also known as the highline canal, will be evaluated for strategic, breaching or partial removal. The purpose being to enhance and enlarge the wetland habitat component of Steigerwald Lake NWR. Options to be considered are: 1) a notch with 1V: 12H slopes; 2) removal of the northern portion of the elevated channel and a notch, and; 3) shaving the top off the entire elevated channel and a notch. A footbridge spanning the notch would be required for each option with its emplacement most likely an action implemented independently by the USFWS.

Fish Passage and Habitat: A design will be generated for a control structure at the inlet/outlet feature that would enhance water management capability for the Steigerwald Lake marshes. The study will address access to Gibbons Creek for both adults and juveniles fish, while assuring that juvenile fish have access to traditional rearing areas of Steigerwald Lake and egress to the Columbia River. The project will look at the feasibility and practicality of keeping and maintaining the existing fish ladder. Should the existing ladder be kept, it will be modified to assure effectiveness. In the event that the existing fish ladder is not suitable or adaptable to the features being considered, a new fish ladder or suitable fish passage feature that mimics natural processes will be considered.

While WDFW and the USFWS are looking to strike a balance between managing the preserve for both fish and wildlife, the study and design, when faced with a choice in terms mitigation design, will bias fish. Water temperature: It is a known fact that lethal water temperature limits for Coho juveniles may be reached during summer months if the lake is held at static levels. Therefore, all designs and subsequent actions at Steigerwald Lake will bear this in mind.

Riparian Vegetation: The study will assess the best and most effective way to re-introduce riparian vegetation. The use of riparian and mixed available oak forest will help create wetland habitat acreage as well as help moderate water temperatures. As necessary, the invasive monoculture, reed canary grass will be removed. The study will assess conventional and non-conventional methods for the introduction of riparian vegetation.

### **Critical Assumptions and Constraints**

The following are assumptions and constraints known at this time. It is likely that as the project progresses, the assumptions may change and the constraints may be redefined:

- Flood control for the site and surrounding vicinities is a priority. The flood control mission for the COE will not be compromised in pursuit of this project. The existing flood control elevations are set at 21 ft.
- The USFWS has designed and approved construction of a visitor center. Construction is pending availability of funding. There is no definitive date for the start of construction. By statute, the building cannot obstruct the view from the highway per the Columbia River Gorge Scenic Act. This has an impact to the design of the lake's water elevation and subsequent management.
- US Fish and Wildlife will determine operation level and range for Steigerwald Lake.
- Management of Steigerwald Lake will be predicated on the management decisions made by WDFW and USFWS in terms of fish and/or wildlife.
- Reserve storage capacity would be maintained in Steigerwald Lake for flood events.
- Cost will be a governing variable. Proposed alternatives will be designed with an eye towards minimizing cost. Removal of existing levees and/or structures as well as the construction of new flood control levees will follow natural contour elevations as much as possible.

## **Project Management Plan (PMP)**

The COE will develop a Project Management Plan (PMP) which will establish a scope, schedule, budgets, and technical performance requirements for COE management and control of this project from Planning, Engineering & Design, through construction. The PMP is a living document and will be modified and adjusted progressively throughout the life cycle of this project. A Responsibility Assignment Matrix that lists products, deliverables, and services and identifies the responsible organization and technical leaders is included as an essential element of this plan.

The Project Delivery Team includes the Sponsor, Stakeholders, and COE staff, including the Project Manager, technical staff, and other staff members necessary to effectively develop and deliver the project. The primary objective of all participants associated with this project is to provide a quality product on schedule and within budget. The PMP will be developed in accordance with the COE Portland District Project Management Business Process Policy and Procedure Manual and Engineering Regulation 5-1-11. The project schedule depicts interrelationships of tasks, activities, milestones, and durations.

## **Work Description**

The following is a brief summary of the work description:

- Conduct field studies and site evaluations.
- Contours and profiles, as needed for both the Steigerwald Lake, creeks and surrounding areas.
- Evaluate existing, historical information, maps, charts and data.
- Economic analysis.
- Development of alternatives.
- Hydraulic/hydrology analysis and modeling (if and as necessary).
- Geotechnical engineering (quantities) for the removal of all or portions of existing levees, and determine quantities for the construction of new levees, as applicable.
- Design/engineer inlet/outlet water control gates.
- Execute all required NEPA procedures.
- Develop plans and specifications for construction, develop acquisition plan to include bid process and award.
- Execute and manage construction contract (assuming and anticipating and assuming the project goes to construction).

## **Roles and Responsibilities**

The COE manages and executes projects through a Product Development Team (PDT) that comprises cross-functional disciplines. Appendix A comprises the COE team roster. While effort will be made to maintain continuity of the team throughout the life cycle of the project, it is possible that there may be team member substitutions due to reassignments or attrition. The PDT is responsible for formulating the various products associated with this study. The PDT is

also responsible for reviewing and endorsing the project management plan (PMP). The following further articulates respective team member responsibilities:

#### Project Manager

The project manager is responsible for overall project execution and is the team leader of the project delivery team. In addition, the project manager is the Corps of Engineer Portland District point of contact and operates as the District Commander's representative for this project. Project manager tasks include preparation of this PMP, overseeing the timely completion of project tasks, monitoring schedules, funding, and communicating with internal and external stakeholders. Management of the PDT will be an ongoing responsibility of the project manager, i.e., scheduling meetings, coordination with team members on the development of project deliverables, and management of project resources.

#### Technical Leads

Technical leads are responsible for the day-to-day management of their assigned products; compiling product budgets; development and updating of detailed product schedules; quality control of assigned products, assisting in the preparation of the PMP; and delivery of assigned products on schedule and within budget.

#### Project Delivery Team Members

Team members contribute their particular expertise necessary for project execution. In addition, team members are responsible for developing section scopes of work and budgets for products they are assigned to work on. Independent Technical Review (ITR) team members may be District personnel, contract personnel, or technical experts from other agencies that are independent of the product development team and have specialized knowledge relevant to the project.

### **Communications**

#### General

The exchange and dissemination of information to those that need it is key and critical to the success of the project. Different team members as well as stake-holders will be needing different pieces of information at different times. As the project progresses there will be questions about the project that will come up from other agencies, interest groups and concerned citizens. The PMP communications plan will be further developed as the project starts to take shape and a better understanding of the complexities of the project are realized. The plan will establish an internal and external communications strategy and determines the information needs of project delivery team (PDT) members and stakeholders, i.e., who needs what information, when they will need it, how it will be given to them, and by whom. In this context communication includes all aspects of communication, such as meetings, correspondence, information papers, websites, etc. In addition, the communications plan will embrace and reflect Corps philosophies, policies and doctrine.

### Regulatory and Resource Agencies

Meetings with the resource agencies will be done as necessary and will consist of brainstorming, criteria development and clarification, product review, and alternative evaluations and development. Agency input is critical during these meetings in regards to selecting and developing the most appropriate alternatives for design and eventual construction.

### **Public Involvement**

A plan for public involvement will be generated following the checklist found in Tab E. The plan for public involvement will be developed as we initiate the Environmental Impact Statement (EIS). Suffice to say, the plan will take into consideration the complexity of the project and the potential misperceptions that may be construed. A key concern that needs to be conveyed is the fact that the project, in no way, will compromise flood control or negatively impact surrounding properties in and around the vicinity of Steigerwald Lake.

### **Quality Management**

Quality Assurance is the program and process employed to ensure the performance of a task meets the agreed upon requirements of the customer and appropriate laws, policies, and technical criteria, on schedule and within budget. The following addresses quality management:

#### Project Management Plan

Quality control procedures, as applied to the Project Management Plan, will follow the Portland District PMP Quality Management Plan.

#### Quality Control

Product quality is the responsibility of everyone on the PDT. Technical quality of WBS products and deliverables shall be achieved through a process that includes development of realistic comprehensive work plans, well defined functional and technical criteria, close coordination among PDT members, and conformance to accepted USACE and industry standards. In addition, WBS products and deliverables shall be reviewed by highly qualified staff from their respective section prior to submittal of the final product. For Engineering products and deliverables, computations will be checked and initialed prior to submittal of the final product.

#### Independent Technical Review

The purpose of an independent technical review is to assure the integrity and accuracy of the technical products produced. In particular, the ITR team will ensure that WBS products and deliverables are safe, functional, constructible, economical, and reasonable; engineering assumptions, concepts and analyses are valid and comply with accepted USACE and industry standards; economic analyses and cost estimates are reasonable and accurate; that the customer's needs will be met; and that WBS products and deliverables comply with U.S. laws, regulations, and existing public policy. ITR certification is required for all technical elements identified in the WBS.

## **Schedule**

The baseline schedule will be fixed after approval of the PMP.

## **Budgets and Cost Estimates**

Feasibility study funds for Section 1135 are initially funded completely by the Federal government. However, if the proposal is approved for implementation, the costs of the feasibility study, plans and specifications must be included as part of the total project costs. Work-in-kind may be provided subsequent to execution of the Project Cooperation Agreement (PCA), however, the value may not exceed 80% of the non-Federal share. The non-Federal sponsor is responsible for:

- Paying 25% of the total cost of the project cost
- Providing all the Lands, Easements, Rights-of-way, Relocation, and Disposal Areas (LERRD).
- Paying 100% of the cost for Operations, Maintenance, Repair, Replacement, and Rehabilitation.

## **Project and Closeout Procedures**

After final inspection and acceptance of the project, property transfer documents will be prepared to transfer the completed works to the customer. These documents include any as-built drawings, O&M manuals, warranties, or other documents pertaining to the project. This will occur as soon as practical following completion of construction of the project. Computations will be scanned and placed in the project directory. The Resident Engineer will process documents such as the final pay estimate and contractor evaluation required for closing the applicable construction contract. In addition, all construction documents and photos will be scanned and placed in the project directory after final close out of the construction contracts.



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
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Planning Branch

Mr. Carl Dugger  
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Dear Mr. Carl Dugger:

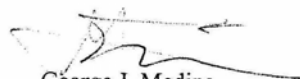
As we discussed earlier this calendar year, regarding the Steigerwald Lake, Section 1135, Feasibility Study Project, this letter is a follow-up to confirm that due to continuing, nationwide funding shortfalls for Section 1135 authority, the feasibility for this study is still on hold.

I regret that we will not be able to proceed as planned with this project at this time. I will keep you advised of funding status. I am hopeful that we will be able to reinstate this study in early fiscal year 2005, but I cannot commit to that at this time. As the new fiscal year approaches, we may learn more about the FY 2005 budget.

If the budget and funding issues are resolved I will certainly contact you at the earliest convenience to reinstate the project. Portland District fully supports both the Section 1135 authority and in particular, the Steigerwald project.

If you have any questions please contact directly at (503) 808-4753 or electronically at [george.j.medina@usace.army.mil](mailto:george.j.medina@usace.army.mil).

Sincerely,

  
George J. Medina  
Project Manager